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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,136	10/14/2003	Joseph B. Rowlands	BP 3247	4505
34399 7590 04/13/2007 GARLICK HARRISON & MARKISON P.O. BOX 160727 AUSTIN, TX 78716-0727			EXAMINER NGUYEN, TANH Q	
			ART UNIT 2182	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			04/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/685,136

Applicant(s)

ROWLANDS, JOSEPH B.

Examiner

Tanh Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/05/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 1, 2007 has been entered.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application, by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because the name of the inventor in the top right hand corner of the first page is not legible, as required under 37 FR 1.52(a)(1)(iv). Note that "Att rney D cket Number" in the top right hand corner of the first page should also be corrected.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 5-8, 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being

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indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites "wherein **data written** by the bridge during **an** uncacheable remote access..." in lines 1-2. It is not clear whether the data written by the bridge in claim 5 is the same as **said** data written by said bridge recited in lines 1-2 of claim 4, and it is not clear whether an uncacheable remote access in claim 5 is the same as **said** uncacheable remote access recited in line 2 of claim 4.

Claim 14 recites "wherein **data written** by the bridge during **an** uncacheable remote access..." in lines 1-2. It is not clear whether the data written by the bridge in claim 14 is the same as **said** data written by said bridge recited in lines 1-2 of claim 13, and it is not clear whether an uncacheable remote access in claim 14 is the same as **said** uncacheable remote access recited in line 2 of claim 13.

The rejections that follow are based on the examiner's best interpretation of the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2)

of such treaty in the English language.

6. Claims 1-8, 10-17 are rejected under 35 U.S.C. 102(a) and 35 U.S.C. 102(e) as being anticipated by Sano et al. (US 2003/0105828).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

7. As per claim 1, Sano teaches a system for managing data in multiple data processing devices using common data paths [FIGs. 1-3], comprising:

a first data processing system [10B, FIG. 3] comprising a memory [24B - FIG. 3], wherein said memory comprises a cacheable coherent memory space [paragraph [0071]]; and

a second data processing system [10A, FIG. 3] communicatively coupled to said first data processing system, said second data processing system comprising at least one bridge [32 of system 10A, FIG. 3], wherein said bridge is operable to perform an uncacheable remote access to said cacheable memory space of said first data processing system [paragraph [0070] teaches noncoherent remote access, last 2 lines of paragraph [0164] teaches uncacheable transaction being treated as noncoherent transaction, and paragraph [0071] teaches noncoherent remote access to cacheable memory space of first data processing system, hence uncacheable remote access to

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cacheable memory space of first data processing system].

8. As per claims 2-8, Sano teaches the uncacheable (noncoherent) remote access comprising writing data to the memory of the first data processing system for incorporation into the cacheable coherent memory space of the first data processing system [paragraph [0071]];

the uncacheable (noncoherent) remote access comprising reading data from the cacheable coherent memory space of the first data processing system [paragraph [0085], lines 4-7; paragraph [0086], lines 1-5; paragraph [0095]];

the data written by the bridge participating in a cacheable coherent memory protocol [MESI protocol or MOESI protocol, paragraph [0042]];

converting the data to conform to a cacheable coherent memory space to allow an agent [32B of system 10B] to access the cacheable coherent address space [paragraphs [0070]-[0071]];

the bridge [32 of system 10A] producing the remote access [performing the remote uncacheable access], and the agent [32 of system 10B] consuming the access, hence a producer-consumer protocol;

data written by the bridge comprising a payload [a packet] and a flag [e.g. WrInv; paragraph [0164]], with the flag and the payload both residing in the first data processing system;

access to the cacheable coherent memory space, hence data being written in accordance with a set of predetermined ordering rules for maintaining coherency.

9. As per claims 10-17, the claims generally correspond to claims 1-8, and are

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rejected on the same bases.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-8, 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (US 6,470,429) in view of Anand (US 6,134,641).

12. As per claim 1, Jones teaches a system for managing data in multiple data processing devices using common data paths [90, FIG. 1], comprising:

a first data processing system [100-106, FIG. 1] comprising a memory [102, 106 - FIG. 1], wherein said memory comprises a cacheable coherent memory space [col. 1, lines 25-27]; and

a second data processing system [110, FIGs. 1-2] communicatively coupled to said first data processing system, said second data processing system comprising at least one bridge [210, FIG. 2], wherein said bridge is operable to perform an uncacheable remote access to uncacheable memory space of said first data processing system.

Jones further teaches the bridge being operable to perform a cacheable remote access to the cacheable coherent memory space of the first data processing system by bus snooping [col. 6, lines 56-59], and bus snooping impacting computer system

performance [col. 2, lines 16-17].

Jones does not teach the bridge performing an uncacheable remote access to the cacheable coherent memory space of the first data processing system.

Anand teaches using uncacheable request to access a cache coherent memory space [col. 5, lines 40-45; col. 9, lines 9-12] in order to avoid bus snooping [col. 9, lines 6-7].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform an uncacheable remote access to a cacheable coherent memory space, as is taught by Anand, in order for Jones' system to maintain coherency while avoiding bus snooping which results in improved performance.

13. As per claims 2-8, Jones/Anand above teaches access to a cacheable coherent memory space, hence a data read from and a data write to a cacheable coherent memory space;

Anand teaches the uncacheable access participating in cacheable coherent memory protocol [240, FIG. 2]; conversion of uncacheable address space into cacheable address space to allow an agent to access the cacheable coherent address space of a data processing system [240, FIG. 2];

Jones/Anand above teaches the bridge performing an uncacheable request, hence a producer and the agent receiving data (in a data read), hence a consumer, and therefore a producer-consumer protocol;

Jones/Anand above teaches access to the cacheable coherent memory space, hence data written by the bridge comprising a payload; Anand further teaches a flag for

indicating an uncacheable request to a cacheable coherent memory space [col. 6, lines 28-31];

Jones/Anand above teaches access to the cacheable coherent memory space, hence data being written in accordance with a set of predetermined ordering rules - to maintain coherency.

14. As per claims 10-17, the claims generally correspond to claims 1-8, and are rejected on the same bases.

Response to Arguments

15. Applicant's arguments filed February 1, 2007 have been fully considered but they are not persuasive.

Applicant argues that the cited portions of Anand do not specify whether the cacheable memory space is coherent or noncoherent. The argument is not persuasive because Anand teaches a non-cacheable request to a cacheable memory space, without any cache coherency problem [col. 9, lines 9-12], and because the cacheable memory space must be coherent in order to not have a cache coherency problem.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Q. Nguyen whose telephone number is 571-272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

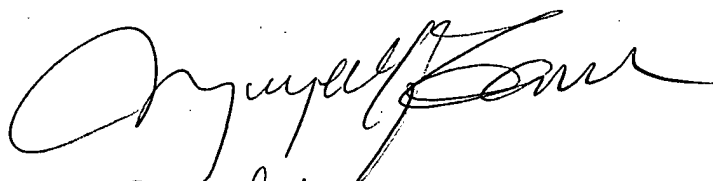
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TANH Q. NGUYEN
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100



April 4, 2007

TQN
April 4, 2007